

General

Guideline Title

Antepartum haemorrhage.

Bibliographic Source(s)

Royal College of Obstetricians and Gynaecologists (RCOG). Antepartum haemorrhage. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2011 Nov. 23 p. (Green-top guideline; no. 63). [95 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

In addition to these evidence-based recommendations, the guideline developer also identifies points of best clinical practice in the original guideline document.

Classification of evidence levels (1++ to 4) and grades of recommendations (A-D) are defined at the end of the "Major Recommendations" field.

Prediction and Prevention of Antepartum Haemorrhage (APH)

Can APH Be Predicted?

C - APH has a heterogeneous pathophysiology and cannot reliably be predicted.

What Investigations Should Be Performed in Women Presenting with APH?

Maternal Investigations

D - The Kleihauer test should be performed in rhesus D (RhD)-negative women to quantify fetomaternal haemorrhage (FMH) in order to gauge the dose of anti-D immunoglobulin (anti-D Ig) required.

C - The Kleihauer test is not a sensitive test for diagnosing abruption.

C - Ultrasound can be used to diagnose placenta praevia but does not exclude abruption.

D - Placental abruption is a clinical diagnosis and there are no sensitive or reliable diagnostic tests available. Ultrasound has limited sensitivity in the identification of retroplacental haemorrhage.

Fetal Investigation

D - Ultrasound should be carried out to establish fetal heart pulsation if fetal viability cannot be detected using external auscultation.

C - In the context of suspected vasa praevia various tests exist that can differentiate between fetal and maternal blood, but are often not applicable (see the National Guideline Clearinghouse [NGC] summary of Green-top guideline No. 27, [Placenta Praevia, Placenta Accreta and Vasa Praevia: Diagnosis and Management](#)).

Should Corticosteroids Be Administered to Women who Present with APH Before Term?

A - Clinicians should offer a single course of antenatal corticosteroids to women between 24⁺⁰ and 34⁺⁶ weeks of gestation at risk of preterm birth.

Should the Antenatal Care of a Woman Be Altered Following APH?

D - Following APH from placental abruption or unexplained APH, the pregnancy should be reclassified as 'high risk' and antenatal care should be consultant-led. Serial ultrasound for fetal growth should be performed.

Labour and Delivery

What Intrapartum Fetal Monitoring Should Be Employed for Women Whose Pregnancies Were Complicated by APH?

D - Women in labour with active vaginal bleeding require continuous electronic fetal monitoring.

D - In women who are in preterm labour whose pregnancies have been complicated by major APH or recurrent minor APH, or if there has been any clinical suspicion of an abruption, then continuous electronic fetal monitoring should be recommended.

What Is the Appropriate Management of the Third Stage of Labour in Women with APH?

A - Women with APH resulting from placental abruption or placenta praevia should be strongly recommended to receive active management of the third stage of labour.

B - Consideration should be given to the use of ergometrine-oxytocin (Syntometrine® [Alliance, Chippenham, Wilts]) to manage the third stage of labour in women with APH resulting from placental abruption or placenta praevia in the absence of hypertension (see the Green-top guideline No. 52, "Prevention and Management of Postpartum Haemorrhage").

Should Women Presenting with APH Who Are RhD-Negative Be Given Anti-D Ig?

B - Anti-D Ig should be given to all non-sensitised RhD-negative women after any presentation with APH, independent of whether routine antenatal prophylactic anti-D has been administered.

D - In the non-sensitised RhD-negative woman in the event of recurrent vaginal bleeding after 20⁺⁰ weeks of gestation, anti-D Ig should be given at a minimum of 6-weekly intervals.

D - In the non-sensitised RhD-negative woman for all events after 20⁺⁰ weeks of gestation, at least 500 iu anti-D Ig should be given followed by a test to identify FMH greater than 4 ml red blood cells; additional anti-D Ig should be given as required.

What Blood Products Should Be Ordered and Made Available for Women with APH?

The principles of fluid replacement and administration of blood products are the same for APH as they are for postpartum haemorrhage. These are presented in detail in the RCOG Green-top guideline No. 52, "Prevention and Management of Postpartum Haemorrhage" and are summarised in Appendix 2 in the original guideline document.

How Should the Woman Presenting with an APH Who Develops a Coagulopathy Be Managed?

D - In women who have experienced a massive blood loss or a major abruption, the development of a disseminated intravascular coagulation (DIC) should be considered. Clotting studies and a platelet count should be urgently requested and advice from a haematologist sought. Up to 4 units of fresh frozen plasma (FFP) and 10 units of cryoprecipitate may be given whilst awaiting the results of the coagulation studies.

How Should the Woman Presenting with an APH Who Is Taking Anticoagulant Therapy Be Managed?

D - Women receiving antenatal anticoagulant therapy (usually low molecular weight heparin or warfarin) should be advised that if they have any

vaginal bleeding they should not take any more doses of anticoagulant medication. They should attend hospital urgently, be assessed on admission and further doses should only be administered after consultation with medical staff.

If a woman develops a haemorrhagic problem while on anticoagulant therapy, the treatment should be reviewed urgently and expert haematological advice sought. Any woman who is considered to be at high risk of haemorrhage and in whom continued heparin treatment is considered essential should be managed with intravenous, unfractionated heparin until the risk factors for haemorrhage have resolved. [Evidence level 4]

How Should the Woman with an Extremely Preterm Pregnancy (24⁺⁰ to 26⁺⁰ Weeks of Gestation) and APH Be Managed?

D - A senior paediatrician/neonatologist should be involved in the counselling of women when extreme preterm birth is likely.

What Is the Role of Obstetric Skill Drills to Improve the Management of APH?

C - Management of a major APH should be included in obstetric skill drills.

Definitions:

Grades of Recommendations

A - At least one meta-analysis, systematic review or randomised controlled trial rated as 1++, and directly applicable to the target population; *or*

A systematic review of randomised controlled trials or a body of evidence consisting principally of studies rated as 1+, directly applicable to the target population and demonstrating overall consistency of results

B - A body of evidence including studies rated as 2++ directly applicable to the target population, and demonstrating overall consistency of results;
or

Extrapolated evidence from studies rated as 1++ or 1+

C - A body of evidence including studies rated as 2+ directly applicable to the target population and demonstrating overall consistency of results;
or

Extrapolated evidence from studies rated as 2++

D - Evidence level 3 or 4; *or*

Extrapolated evidence from studies rated as 2+

Good Practice Point - Recommended best practice based on the clinical experience of the guideline development group

Classification of Evidence Levels

1++ High-quality meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a very low risk of bias

1+ Well-conducted meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias

1- Meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a high risk of bias

2++ High-quality systematic reviews of case-control or cohort studies or high-quality case-control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relationship is causal

2+ Well-conducted case-control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that the relationship is causal

2- Case-control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal

3 Non-analytical studies, e.g., case reports, case series

4 Expert opinion

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Antepartum haemorrhage (APH) - single or recurrent

Note: The causes of APH include placenta praevia, placental abruption and local causes (for example bleeding from the vulva, vagina or cervix). It is not uncommon to fail to identify a cause for APH, when it is then described as 'unexplained APH'.

Guideline Category

Counseling

Diagnosis

Evaluation

Management

Prevention

Risk Assessment

Treatment

Clinical Specialty

Anesthesiology

Family Practice

Internal Medicine

Obstetrics and Gynecology

Pediatrics

Radiology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To assist clinicians working in obstetric units in the UK in identifying the risk factors, diagnosis, and management of single or recurrent antepartum haemorrhage (APH)

Target Population

Pregnant women with antepartum haemorrhage (APH), occurring from 24⁺⁰ weeks of pregnancy and prior to the birth of the baby

Note: This guideline does not include specific recommendations for the management of women who refuse blood transfusion. The Centre for Maternal and Child Enquiries (CMACE) and the Royal College of Obstetricians and Gynaecologists (RCOG) have published guidance regarding the management of pregnancy in women who decline blood products. The code of practice for the surgical management of Jehovah's Witness patients by the Royal College of Surgeons (England) and Management of Anaesthesia for Jehovah's Witnesses by the Association of Anaesthetists of Great Britain and Ireland provide useful additional information.

Interventions and Practices Considered

1. Kleihauer test in rhesus D (RhD)-negative women to quantify fetomaternal haemorrhage (FMH) to gauge the dose of anti-D immunoglobulin (anti-D Ig) required
2. Ultrasound for diagnosis of placenta praevia and to establish fetal heart pulsation
3. Fetal investigations to detect fetal heart rate and exclude intrauterine fetal death
4. Use of point-of-care tests for differentiating between fetal and maternal blood
5. Single course of antenatal corticosteroids to women at risk of preterm birth
6. Reclassification of pregnancies as 'high risk' following antepartum haemorrhage (APH) from placental abruption or unexplained APH
7. Serial ultrasound for fetal growth
8. Use of continuous electronic fetal monitoring or intermittent auscultation during labour
9. Management of third stage of labour with consideration given to the use of ergometrine-oxytocin (Syntometrine®)
10. Administration of anti-D Ig to all non-sensitised RhD-negative women
11. Management of suspected disseminated intravascular coagulation (DIC) with urgent clotting studies and a platelet count, advice from a haematologist, fresh frozen plasma, and cryoprecipitate
12. Avoidance of anticoagulant therapy in women with APH
13. Counselling by a senior paediatrician/neonatologist when extreme preterm birth is likely
14. Assessment of the neonate
15. Obstetric skill drills in management of a major APH

Major Outcomes Considered

- Pre-term birth
- Perinatal and maternal morbidity and mortality
- Risk factors for abruption and placenta praevia
- Sensitivity and specificity of tests for abruption

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

This guideline was developed in accordance with standard methodology for producing Royal College of Obstetricians and Gynaecologists (RCOG) Green-top guidelines. The Cochrane Library (including the Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews and Effects [DARE] and EMBASE), Turning Research into Practice (TRIP), Medline and PubMed (electronic databases) were searched for relevant randomised controlled trials, systematic reviews and meta-analyses. The search was restricted to articles published between 1966 and February 2011. The databases were searched using the relevant MeSH terms, including all subheadings, and this was combined with a keyword search. Search words included 'antepartum haemorrhage', 'placental abruption', 'placenta praevia', 'placenta previa', 'vasa praevia', 'vasa previa', 'obstetric haemorrhage', 'obstetric hemorrhage', 'fetal haemorrhage', 'fetal hemorrhage', 'fetomaternal haemorrhage', 'fetomaternal hemorrhage', 'antenatal bleeding', 'pregnancy', 'disseminated intravascular coagulopathy', and the search limited to humans and the English

language.

The National Library for Health and the National Guideline Clearinghouse were also searched for relevant guidelines and reviews (with no results). Guidelines and recommendations produced by organisations such as NHS Health Trusts were therefore considered.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Classification of Evidence Levels

1++ High-quality meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a very low risk of bias

1+ Well-conducted meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias

1– Meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a high risk of bias

2++ High-quality systematic reviews of case-control or cohort studies or high-quality case-control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relationship is causal

2+ Well-conducted case-control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that the relationship is causal

2– Case-control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal

3 Non-analytical studies, e.g., case reports, case series

4 Expert opinion

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Reviewing and Grading of Evidence

Once the evidence has been collated for each clinical question it needs to be appraised and reviewed (refer to section 3 in "Development of RCOG Green-top guidelines: producing a clinical practice guideline" for information on the formulation of the clinical questions; see the "Availability of Companion Documents" field). For each question, the study type with least chance of bias should be used. If available, randomised controlled trials (RCTs) of suitable size and quality should be used in preference to observational data. This may vary depending on the outcome being examined.

The level of evidence and the grade of the recommendations used in this guideline originate from the guidance by the Scottish Intercollegiate Guidelines Network (SIGN) Grading Review Group, which incorporates formal assessment of the methodological quality, quantity, consistency, and applicability of the evidence base. The methods used to appraise individual study types are available from the SIGN Web site (www.sign.ac.uk/methodology/checklists.html). An objective appraisal of study quality is essential, but paired reviewing by guideline leads may be impractical because of resource constraints.

Once evidence has been collated and appraised, it can be graded. A judgement on the quality of the evidence will be necessary using the grading system (see the "Rating Scheme for the Strength of the Evidence" field). Where evidence is felt to warrant 'down-grading', for whatever reason, the rationale must be stated. Evidence judged to be of poor quality can be excluded. Any study with a high chance of bias (either 1– or 2–) will be excluded from the guideline and recommendations will not be based on this evidence. This prevents recommendations being based on poor-quality RCTs when higher-quality observational evidence is available.

Methods Used to Formulate the Recommendations

Expert Consensus

Informal Consensus

Description of Methods Used to Formulate the Recommendations

Guideline Development

The development of guidelines involves more than the collation and reviewing of evidence. Even with high-quality data from systematic reviews of randomised controlled trials, a value judgement is needed when comparing one therapy with another. This will therefore introduce the need for consensus.

Royal College of Obstetricians and Gynaecologists (RCOG) Green-top guidelines are drafted by nominated developers, in contrast to other guideline groups such as the National Institute for Health and Clinical Excellence (NICE) and the Scottish Intercollegiate Guidelines Network (SIGN), who use larger guideline development groups. Equally, in contrast to other guideline groups, the topics chosen for development as Green-top guidelines are concise enough to allow development by a smaller group of individuals.

In agreeing the precise wording of evidence-based guideline recommendations and in developing consensus-based 'good practice points', the Guidelines Committee (GC) will employ an informal consensus approach through group discussion. In line with current methodologies, the entire development process will follow strict guidance and be both transparent and robust. The RCOG acknowledges that formal consensus methods have been described, but these require further evaluation in the context of clinical guideline development. It is envisaged that this will not detract from the rigor of the process but prevent undue delays in development.

Rating Scheme for the Strength of the Recommendations

Grades of Recommendations

A - At least one meta-analysis, systematic review or randomised controlled trial rated as 1++, and directly applicable to the target population; *or*

A systematic review of randomised controlled trials or a body of evidence consisting principally of studies rated as 1+, directly applicable to the target population and demonstrating overall consistency of results

B - A body of evidence including studies rated as 2++ directly applicable to the target population, and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 1++ or 1+

C - A body of evidence including studies rated as 2+ directly applicable to the target population and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 2++

D - Evidence level 3 or 4; *or*

Extrapolated evidence from studies rated as 2+

Good Practice Point - Recommended best practice based on the clinical experience of the guideline development group

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Following discussion in the Guidelines Committee (GC), each Green-top guideline is formally peer reviewed. At the same time, the draft guideline is published on the Royal College of Obstetricians and Gynaecologists (RCOG) Web site for further peer discussion before final publication.

All comments will be collated by the RCOG and tabulated for consideration by the guideline leads. Each comment will require discussion. Where comments are rejected then justification will need to be made. Following this review, the document will be updated and the GC will then review the revised draft and the table of comments.

Once the GC signs-off on the guideline, it is submitted to the Standards Board for approval before final publication.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Reduced pregnancy complications related to antepartum haemorrhage
- Lower preterm birth rates
- Prevention of maternal or fetal morbidity and mortality

Potential Harms

Not stated

Contraindications

Contraindications

- Tocolytic therapy is contraindicated in placental abruption and is 'relatively contraindicated' in 'mild haemorrhage' due to placenta praevia.
- Specific contraindications to regional anaesthesia relevant to antepartum haemorrhage include maternal cardiovascular instability and coagulopathy. The choice of anaesthesia for each case requires an individual assessment by a senior anaesthetist; if the woman is haemodynamically stable, the magnitude of active bleeding should determine the appropriateness of regional anaesthesia.

Qualifying Statements

Qualifying Statements

- These recommendations are not intended to dictate an exclusive course of management or treatment. They must be evaluated with reference to individual patient needs, resources and limitations unique to the institution and variations in local populations. It is hoped that this process of local ownership will help to incorporate these guidelines into routine practice. Attention is drawn to areas of clinical uncertainty where further research may be indicated.
- The Royal College of Obstetricians and Gynaecologists (RCOG) produces guidelines as an educational aid to good clinical practice. They present recognised methods and techniques of clinical practice, based on published evidence, for consideration by obstetricians and gynaecologists and other relevant health professionals. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor or other attendant in the light of clinical data presented by the patient and the diagnostic and treatment options available within the appropriate health services. This means that RCOG guidelines are unlike protocols or guidelines issued by employers, not being intended to be prescriptive directions defining a single course of management. Departure from the local prescriptive protocols or guidelines should be fully documented in the patient's case notes at the time the relevant decision is taken.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Audit Criteria/Indicators

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Patient-centeredness

Timeliness

Identifying Information and Availability

Bibliographic Source(s)

Royal College of Obstetricians and Gynaecologists (RCOG). Antepartum haemorrhage. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2011 Nov. 23 p. (Green-top guideline; no. 63). [95 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2011 Nov

Guideline Developer(s)

Royal College of Obstetricians and Gynaecologists - Medical Specialty Society

Source(s) of Funding

Royal College of Obstetricians and Gynaecologists

Guideline Committee

Guidelines Committee

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Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the [Royal College of Obstetricians and Gynaecologists \(RCOG\) Web site](#) .

Availability of Companion Documents

The following are available:

- Development of RCOG Green-top guidelines: policies and processes. Clinical Governance Advice No 1a. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2006 Nov. 6 p. Electronic copies: Available from the [Royal College of Obstetricians and Gynaecologists \(RCOG\) Web site](#) .
- Development of RCOG Green-top guidelines: producing a scope. Clinical Governance Advice No 1b. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2006 Nov. 4 p. Electronic copies: Available from the [RCOG Web site](#) .
- Development of RCOG Green-top guidelines: producing a clinical practice guideline. Clinical Governance Advice No 1c. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2006 Nov. 13 p. Electronic copies: Available from the [RCOG Web site](#) .
- Development of RCOG Green-top guidelines: consensus methods for adaptation of Green-top guidelines. Clinical Governance Advice No 1d. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2010 Feb. 9 p. Electronic copies: Available from the [RCOG Web site](#) .

Appendix 1 of the [original guideline document](#) contains principles of management of massive antepartum haemorrhage; Appendix 2 contains the principles of fluid replacement and administration of blood products.

In addition, suggested audit topics can be found in section 21 of the [original guideline document](#) .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on May 14, 2012. This summary was verified by the guideline developer on June 18, 2012.

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